

# Policy Brief

## Perceived impacts of P2P supported projects

### Deliverable 3.2

What do you consider to be the top three benefits from your participation in the specific transnational project?

Better access to scientific European networks, improved scientific competences by participating in European networks, better situation to compete for future European project funding

Enlarged network, increased funding opportunities in the future, research outcomes (publishable papers)

Bringing together all the appropriate partners within the EU to undertake research together, allowed minor players in the field to have intimate access and communication with much bigger players, allowed the development of organic plant breeding and in particular the production, testing and policy development of populations to get to a point where they could be tested in the market

Fantastic results (world-class), fantastic partners, funding was perfect in its amount

Being able to collect data in several countries, learning new methods, joining networks of researchers

The possibility of taking advantage of technological laboratory that does not exist in my country, the international technological trial involving industrial partners, new areas of research in which our expertise turned out very important

Collaboration with highly qualified and experienced scientists in my field of research, access to novel technologies, access to novel ideas and concepts

Better links between other specialists within the EU, better understanding of systems and practices within other countries, Improved opportunities for wider dissemination of research findings across EU producer base

Established international network Paved the way for future European projects Achieved competence in coordination of international multi-partner projects

Interaction with R&D organisations in other countries, access to knowledge, access to higher quality expertise

New collaboration network, direct knowledge transfer to farmers, improved skills in end-user oriented research activities

The research done, the network building, the political effect of the project

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**Project acronym:** ERA-LEARN 2020  
**Project full title:** Strengthening joint programming in Europe  
**Funding scheme:** Coordination and support action  
**Start date of project:** 1 January 2015  
**Duration:** 42 months

## **Policy Brief**

### **Perceived impacts of P2P supported projects**

### **Deliverable D 3.2**

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- iv. Annex IV: Pilot survey questionnaire to project beneficiaries
- v. Annex V: ERAC survey questionnaire – project beneficiaries

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## Executive Summary

The present document is the third annual Policy Brief of ERA-LEARN 2020. It is analysing the impact of P2Ps and P2P-supported projects. It focuses on the results of a pilot exercise that was addressed to three bio-economy networks (SUSFOOD, ERA-IB-2 and CORE ORGANIC II) and their supported projects. The brief draws on the results of the on-line survey<sup>1</sup> addressed to project beneficiaries of the three networks and on the findings of the interviews with network members and project beneficiaries. The discussion of the results is complemented where relevant with some of the findings of the survey conducted for the ERAC Ad-hoc Working Group on Partnerships in 2018 in order to identify challenges to implementation of P2P-supported projects.

The results of this work are presented separately for each network. However, it becomes evident that there is a significant degree of overlap in the recorded findings. Some key shared conclusions worth mentioning before the presentation of each network and the associated results are the following:

- Participation of countries in the networks studied is underlined by different degrees of interest to the specific areas addressed, different levels of experience and expertise, funding resources and research capacity. Well-resourced countries with high interest in the specific research area are usually leading evolutions in the network, whereas other countries may be more selective and limited by budget constraints. Increasing the participation of low-performing countries (LPCs) has been of primary importance for CORE Organic. The measures applied in this regard may serve as good practice for other networks.
- When comparing the transnational projects to those of EU Framework programmes, there is general appreciation of lower bureaucracy, flexibility, and solutions-orientation. Additionally, the smaller scale of transnational projects and the importance of carrying out research at this scale was highlighted by beneficiaries as a test bed that usually then leads to larger-scale implementation through more ambitious projects.
- The key factors for the success for the projects are similar to those for networks: competent coordination team supported by adequate resources and participatory and democratic management procedures within a trust-building environment. One of the most interesting issues that emerged during the beneficiary interviews, however, concerns the role of the funding agencies during the course of the projects. The support of the national agencies especially in case of problems was highly appreciated, while its absence was negatively commented. Quick procedures to acquire the national funding is essential for the smooth project progress, although that was not always the case, but the requirements for double application submission and double reporting and the different procedures of participation has put unnecessary burden on the beneficiaries.
- The problems associated with these procedures (different eligibility rules, different proposal submission and evaluation systems, etc.) are structural, i.e. they cannot be solved by training or longer experience of involvement in transnational projects. These differences across national settings alongside the requirement to abide by the respective rules and procedures both at the national and the network level form important challenges for project initiation and management. They are problems that can only be dealt with structural changes in the way these issues are treated within networks.
- Overall, impressions by both the network members and project beneficiaries align to a shared sense of satisfaction. Based on the testimonies, this becomes even more impressive given the small project budgets and the relatively limited funds made available by member countries.

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<sup>1</sup> <https://www.era-learn.eu/events/annual-conference-on-public-public-partnerships-7-8-nov-2017/1.3HunterDay2plenary.pdf>

Below follow short summaries of the findings for each of the three networks studied.

## SUSFOOD

SUSFOOD is an ERA-NET that was initially launched in 2011 under the EU 7th Framework Programme and continued in H2020 as SUSFOOD2. The purpose of the first SUSFOOD was to share information, coordinate activities and work towards a common research agenda and mutual research funding activities in the field of sustainable food production and consumption. SUSFOOD2 currently consists of 26 partners from 15 EU Member states and Third countries and is coordinated by Jülich, Germany, whereas the first network was coordinated by INRA France.

The fact that no other network existed at the time in the specific area alongside the increasing importance of the topic in the national and EU agendas, acted as a major motivation for countries to be included in the network. Otherwise, a combination of relevance to own interests of member organisations, strength and competences of member countries and opportunity to access those of other countries reflect the main motivations for participation in SUSFOOD. For SUSFOOD, because of the specific topic, it was also the diversity of the partners that attracted interest to participate as this offered access to different food cultures and food systems.

SUSFOOD made progress in the research on sustainable food production and consumption through all the scientific work carried out for the development of the Strategic Research Agenda, the mapping exercise (c.f. Meta Knowledge Database), the country report book and the research projects supported. This work paved the way for the development of SUSFOOD2, the continuation of the network in Horizon 2020. The calls brought together the European research community in sustainable food production and consumption in joint research projects. The large number of proposals received in the two calls is an indication of high interest in the area and of the usefulness of the network to the research community. Nevertheless, network members highlight that the funding resources for the two calls (€16 m in total) could be higher given the rising importance of the topic in European societies.

SUSFOOD enjoyed effective management and coordination. This was enabled by a skilful coordinator surrounded by a good team, adequate resources along with sound coordination and management approaches. The successive coordinators have been quite pro-active in ensuring effective communication with the partners, making sure they are satisfied and making linkages with other European initiatives/instruments (e.g. JPIs). The governance of the network and especially the advisory board (representing different stakeholders as well as industry) has been identified as a good practice. A good submission tool was also key.

Based on the beneficiaries' views, the motivations to take part in SUSFOOD projects related both to the topic being addressed as well as the formation of strong networks of peers and collaborations between the research and business communities. It was also the interdisciplinarity of the research approach that triggered interest in participation as a new way forward to address the specific issues. In line with these motivations, building scientific capacity and strong networks of researchers within the academic community or between academia and industry were identified as the main outcomes. In terms of outputs, while the majority reported scientific publications and conference presentations as the main outputs, some projects also developed new processes and products or services which are likely to demonstrate additional impact in the years to come. Another dimension of impact that surfaced was the reputation that the success of certain projects created and how it affected the 'behaviour' of the country in the network, and/or led to the continuation of the collaboration in follow-up projects in SUSFOOD-2 or H2020.

In terms of key factors for success, the quality of the coordination and the selection of partners were crucial for the success of the project along with the design and framing of the project. Several projects also acknowledged as crucial the involvement of relevant stakeholders, be it policy-makers or industrial actors where relevant.

## **ERA-IB**

ERA-IB started in 2006 under FP6 and continued in FP7 as ERA-IB-2 aspiring to ultimately become a self-sustained network. In total ERA-IB launched six joint calls (some in collaboration with other networks). Building on the achievements to date ERA-IB was merged under Horizon 2020 into ERA CoBioTech (ERA-Net Cofund on Biotechnologies) together with ERASysAPP (ERA-Net for Applied Systems Biology) and ERASynBio (ERA-Net for Synthetic Biology). ERA CoBioTech today brings together 24 funding organisations from 20 countries.

The main motivation for the creation of the network has been the need to increase the effectiveness of industrial biotechnology research and improving the alignment of national R&D programs at the European level. Aside from developing and sharing a common agenda, ERA-IB opened the opportunity to co-fund projects that could not be carried out nationally as they needed large infrastructures or databases available elsewhere. To date ERA-IB has supported collaborative research between academics, industry and SMEs with a total budget amounting to €130 m over the past 10 years. Yet, network members note that the majority of national funds are still channelled to national research communities through national programmes. Ensuring national commitments is still a serious challenge for any ERA-NET. When it comes to key factors for success the ERA-IB experience stresses the importance of trust between partners and of a simple and manageable governance structure.

The ERA-IB project beneficiaries were attracted to the network calls in order to advance their knowledge and expertise; gain access to high-quality expertise available elsewhere; establish (new) collaborations with EU counterparts; get access to additional funding and improve their international standing. In a similar vein to SUSFOOD, the interdisciplinary approach followed in projects was another attractive challenge, as was collaboration with industry, which was enabled through the projects. Apart from achieving scientific/technological results, and the importance of the European networks created, the improvement of competences and skills were noted, that on some instances increased employability.

Project beneficiaries that enjoyed significant experience in national as well as European and/or international projects were comfortable to compare ERA-IB supported projects and stress their positive elements, including the involvement of the private sector. ERA-IB projects acted as the first step towards international collaborations that followed for many of the beneficiaries.

The ERA-IB experience echoed the importance of the capacity to work as a team for the success of the project, of having realistic goals and applying a problem-solving approach. Involvement of users is also key and the size of the consortium needs to be manageable, which is not often the case in EU projects. Challenges in the ERA-IB projects studied recalled the role of the national agencies and the need for reaching out beyond the scientific community. In addition project budgets were overall considered limited which made beneficiaries even more enthusiastic about their achievements.

## **CORE Organic II**

CORE Organic II was the successor of CORE Organic ("Coordination of European Transnational Research in Organic Food and Farming Systems"), an FP6 ERA-NET that aimed at enhancing the quality, relevance and utilisation of resources in European research in organic food and farming by gathering a critical mass and establishing a joint research programme. CORE Organic II ended in August 2013. However the collaboration continues in Horizon 2020 as an ERA-NET Cofund entitled CORE Organic Plus.

The main motivation for creating CORE Organic was the realisation that national research in the specific area (organic food and farming systems) is not adequate, besides being fragmented, to make significant progress in the field. At the same time, more 'nationally-oriented' motivations played a role particularly in terms of opportunity to engage and support the local research communities with

additional funds and research excellence. The learning experience was also appreciated by the network members via collaboration with other partners but also by the chance to work with communities of practitioners (such as organic farmers). The primary expectations of network members relate to the ability to offer researchers the opportunity to internationalise their research and the hope that the networks being formed through the supported projects will continue collaboration outside CORE Organic.

As for factors for success, the democratic and participatory approach in management was deemed important as well as ensuring participation of all partners and spending all the allocated national resources of the members. Project life-long monitoring and evaluation are crucial. The case of CORE Organic was also informative in relation to the implications of involving several different ministries (e.g. Ministry of Agriculture and Ministry of Research) due to the interdisciplinarity of the area addressed.

As in the case of the other projects studied, the scientific challenge was the main motivation for the CORE Organic project beneficiaries to participate combined with the opportunity to collaborate with international peers (researchers) as well as users. The interdisciplinary nature of the approach was also attractive even though it may have seemed a serious challenge at the beginning. The scientific outputs of the projects were mainly cited as the main outcomes but the results were widely disseminated beyond the research community.

One of the CORE Organic achievements has been the significant impact on users through dissemination of the research results produced. CORE Organic designed a permanent service of sharing research results through the 'Organic Eprints' database, the biggest database related to organic research results, where national experts from the research projects translate findings in national languages for use by farmers and consumers.

The CORE organic experience echoed the crucial role of the coordinator, the team composition and interaction and the resulting trust as key factors for success of projects. At the same time it highlighted that the budget available was a challenge for most projects (as in the case of ERA-IB projects).

As final remark, most of the projects studied had just ended when the beneficiaries were invited to take part in the survey or the interviews. Naturally, the most immediate outputs and impacts had to do with scientific outputs, improved networking and enhanced competence and skills through their direct involvement in the project activities. However, during the interviews beneficiaries were eager to highlight the potential of additional impacts that were expected in the years to come.



## Introduction

The present document is the third annual Policy Brief analysing the impact of P2Ps and P2P-supported projects (ERA-LEARN 2020 Deliverable 3.2). This brief focuses on the results of a pilot exercise that was addressed to three bio-economy networks (SUSFOOD, ERA-IB-2 and CORE ORGANIC II). The exercise included an on-line survey addressed to the beneficiaries of funded projects from at least one call launched by each of the three networks. In total 76 responses were received and analysed (27% response rate). In addition this report draws upon the results of the survey that was conducted for the ERAC Ad-hoc Working Group on Partnerships in 2018 in order to identify challenges to implementation of P2P-supported projects. In particular the responses of the project beneficiaries (182 completed) were considered.

The on-line survey was complemented by interviews with representatives of the selected networks as well as project beneficiaries. The interviews with the network representatives included the coordinator, the call secretariat and the chair or a member of the advisory board. The purpose of the network interviews was to understand the strategic aims of the network, its evolution over time, the main achievements and challenges, and aspirations for the future. This was useful in terms of framing the responses to the on-line survey and the results of the interviews with project beneficiaries in the right context.

The interviews with the project beneficiaries included the coordinator and some selected members from research organisations and industry. Projects were selected in close collaboration with the network Coordinator, the focus being on successful but also less-successful projects as well as projects that were not represented in the on-line survey. The purpose of the interviews was twofold: to explain the major achievements and failures as well as the factors that were instrumental for the level of success of the project, and to increase the number of projects studied. In total, 10 completed projects were selected (3 from CORE ORGANIC II, 3 from ERA-IB-2 and 4 from SUSFOOD) and a total of 33 interviews were carried out (Table 1).

**Table 1: List of projects and number of interviews**

NETWORK / PROJECTS	No NETWORK INTERVIEWS	No PROJECT INTERVIEWS
<b>SUSFOOD</b>	3	
<b>COSUS</b>		3
<b>RF-cooking of ham</b>		1
<b>SUNNIVA</b>		3
<b>SUSDIET</b>		4
<b>ERA-IB-2</b>	3	
<b>PRODUce</b>		2
<b>SCILS</b>		2
<b>FIBERFUEL</b>		5
<b>CORE Organic II</b>	2	
<b>INTERVEG</b>		2
<b>ICOPP</b>		1
<b>TILMAN-ORG</b>		2
<b>TOTAL</b>	<b>8</b>	<b>25</b>

## The 3 networks in brief



### SUSFOOD

The first SUSFOOD ERA-NET was launched in 2011 under the EU 7th Framework Programme (FP7) and consisted of a network of 26 national research funders in Member and Associated States from 16 Countries led by INRA, France. The purpose of the first SUSFOOD was to share information, coordinate activities and work towards a common research agenda and mutual research funding activities in the field of sustainable food production and consumption. During this ERA-Net, a Strategic Research Agenda was developed and identified eight priority research areas. These were used to determine the topics of the two Joint calls that were initiated in 2013 and 2014. Nine proposals were funded for a total amount of 10 Mio€ in the first call (2013) and 6 projects in the second call (2014). Three out of the four projects studied in this report (COSUS, SUNNIVA and SUSDIET) come from the 2013 call and one (RF-cooking of ham) from the 2014 call. After it's ending in 2014, the SUSFOOD partners continued the network and in January 2017 it took the form of a H2020 ERA-Net COFUND under the name SUSFOOD2. SUSFOOD2 consists of 26 partners from 15 EU Member states and 3rd countries, coordinated by Jülich, Germany. <http://susfood-db-era.net/drupal/>



### ERA-IB-2

ERA-IB started in 2006 funded from the Sixth Framework Programme (FP6). The network included 17 partners and 5 observers from 12 states and aimed to reduce fragmentation of national research efforts and to achieve sufficient critical mass and better use of scarce resources in the field of Industrial Biotechnology (IB). Building on the success of ERA-IB the network continued with the support of FP7 as ERA-IB-2 aspiring to ultimately become a self-sustained network. In total ERA-IB launched six joint calls, the three last ones in collaboration with EuroTransBio (ETB), that supported 71 projects in total. A 7th transnational joint call was also organised in 2015 in collaboration with ERASynBio and ERA-NET Marine Biotechnology (ERA-MBT). This call resulted in 9 granted projects out of 37 submitted full proposals. The projects studied in this report come from the 3<sup>rd</sup> call (2012). Building on the achievements to date ERA-IB was merged under Horizon 2020 into ERA CoBioTech (ERA-Net Cofund on Biotechnologies) together with ERASysAPP (ERA-Net for Applied Systems Biology) and ERASynBio (ERA-Net for Synthetic Biology). ERA CoBioTech brings together 24 funding organisations from 20 countries and started with the launch of the co-funded call for transnational R&D proposals in December 2016. <http://www.era-ib.net/>



### CORE Organic II

CORE Organic II was the successor of CORE Organic ("Coordination of European Transnational Research in Organic Food and Farming Systems"), an FP6 ERA-NET that aimed at enhancing the quality, relevance and utilisation of resources in European research in organic food and farming by gathering a critical mass and establishing a joint research programme. Under CORE Organic a total of eight pilot research projects were selected for transnational funding by means of a virtual common pot approach. CORE Organic also managed to create a wider network of partners, to continue and expand the collaboration. This was enabled as an ERA-NET under FP7 under the name CORE Organic II. Three joint calls for proposals were launched under CORE Organic II that resulted in 14 supported projects. The projects studied in this report come from the first call. CORE Organic II ended in August 2013. However the collaboration continues in Horizon 2020 as an ERA-NET Cofund titled CORE Organic Plus. <https://www.coreorganic.org/>

## The SUSFOOD experience

### Motivations and patterns of behaviour of network members

A combination of **relevance to own interests** of member organisations, **strength and competences** of member countries and opportunity to access those of other countries, along with the **increasing importance of the topic** in the European agenda reflect the main motivations for participation in SUSFOOD. The initiation of SUSFOOD was essentially based on the Standing Committee on Agricultural Research (SCAR) and the Collaborative Working Group on sustainable food production. The members of this group constituted the “core” of the network and were invited to submit a proposal to create an ERA-NET that would complement the two relevant JPIs (FACCE-JPI and JPI Healthy Diet for a Healthy life).

As expressed by network members, the overall aim of SUSFOOD was to bring awareness on the field of sustainable food production and consumption. SUSFOOD was the first network in the area of nutrition and sustainable food production and consumption. Having a network on this topic was an important motivation for partners, especially Ministries, which wanted to make progress in this area.

The **diversity of the partners** (25 partners, 16 countries) also attracted interest to participate as this offered access to different food cultures and food systems. Participation in the network offered the chance to access country-specific knowledge as well as complementary expertise not existing in specific countries.

Participation of countries is underlined by **different degrees of interest** to the specific call topics addressed, **funding resources and research capacity**. The Nordic countries for instance are more advanced on issues related to sustainability, including the consumer behaviour part, whereas France mainly focuses on innovation in food processing technologies.

In relation to funding resources the two calls received about €16 m in total. As noted by interviewees, this amount could be higher regarding the importance of the topic at European as well as national levels. There are countries that are relatively ‘wealthier’ in research budgets and can thus devote more resources to trans-national networks such as Germany, Sweden, Norway, or Finland. At the same time there are other countries that have more limited resources (e.g. East-European partners from EU - 13) and are thus more focused on where they make financial contributions.

On the other hand, there are some countries, such as Spain or Italy, where the funds made available cannot cover the participation of their research teams in successful proposals. At the same time, other countries (such as Slovenia) find that there are no successful proposals including local research teams to support.

#### Expectations and achievements

*The partners were happy to participate and meet with each other. It was the first network and the first experience for many. It may explain why people were so keen on collaborating and achieving consensus if needed.  
(SUSFOOD network member)*

The overall expectation was to bring together funding agencies, ministries, academic institutions and their expertise within a **network** as no network existed before in the specific area. Thus, the creation of the network itself is a great achievement. It allows partners to share information, coordinate

activities and support joint research activities based on a common agenda. The network has concretized an academic and financial commitment on themes connected to Grand Challenges. There is now a structure (i.e. the network) to support research in this area.

Another achievement refers to the creation of the Meta Knowledge Database (<https://susfood-db-era.net/drupal/content/meta-knowledge-base>) a very resource intensive work that helped develop the **Strategic Research Agenda** (SRA), which was in itself another important achievement. The SRA identified gaps, opportunities and priorities for the future. It was opened to national consultation and validated by all partners. The funding agencies used - and are still using - the SRA to identify topics for the joint calls. Scientific experts as well as industrial actors have been involved in the development of the agenda, which denotes an inclusive, multi-stakeholder process and an outcome that takes into account a wider diversity of perspectives. Co-producing, sharing and diffusing a common SRA in such an important topic as sustainable food production and consumption is significant.

On the scientific front, SUSFOOD made progress in the research on sustainable food production and consumption through all the scientific work carried out for the development of the Strategic Research Agenda, the mapping exercise (c.f. Meta Knowledge Database), the country report book and the research projects supported. This work paved the way for the development of SUSFOOD2, the continuation of the network in Horizon 2020.

*Time is important to build a network and to tackle a wide range of scientific gaps. Achievements will be judged in the long run... The main challenge is to make this cooperation durable and it is too early to say if this challenging objective is reached yet... The topic of SUSFOOD is huge. An ERA-NET like SUSFOOD is still too small to attract for instance the large industrial actors in the field.  
(SUSFOOD network members)*

Equally important, having many **researchers from different countries** working together is another sign of success. The network and the calls brought together the European research community in sustainable food production and consumption in joint research projects. The large number of proposals received in the two calls (90 for the 1<sup>st</sup> call and about 70 for the 2<sup>nd</sup> call) is an indication of high interest in the area and of the usefulness of the network to the research community. However, given the

importance of the topic more funds should be made available to allow funding of more high-quality proposals. An unexpected impact was that the network attracted interest from other than public funders and ministries. The [Carasso foundation](#) supported French, Spanish and Italian research units involved in two SUSFOOD research projects.<sup>2</sup> New countries have also joined the network in the transition from the first network to the successor, SUSFOOD2. This is an indication of the usefulness of the network and its dynamism.

## Challenges and good practices in managing the network

Coordination of the network proves to be challenging as it has to converge three different levels: the network rules, the national rules and the EU rules. This needs a **skilful coordinator** surrounded by a **good team, adequate resources** (which is rarely the case) along with sound coordination and management approaches. The good management of SUSFOOD1 – by people at INRA – was key. They also proposed a series of guidelines for the coordination team and the partners that were very useful although sometimes maybe too constraining. The new management is also very dynamic and pro-active.

The creation of SUSFOOD was underlined by the need to coordinate the research on sustainable food production and consumption amongst European countries. This need was also justified by the opportunity to have a **'stronger voice' in decision making**. The successive coordinators have been quite **pro-active** in this regard by ensuring effective communication with the partners, making sure they are satisfied and making linkages with other European initiatives/instruments (e.g. JPIs). However, the **funds** made available for SUSFOOD are **not enough**. The challenge to reach the politicians and affect their decisions remains.

<sup>2</sup> <https://fondationcarasso.org/fr/node/156>

The **governance** of the network and especially the **advisory board** (including **different stakeholders** and representing other **relevant initiatives**) is also a good practice. The advisory board members have been very helpful at the different stage of the network. Having a diversity of actors, **including industrial actors** was also important as it opens to door to the industrial community.

A **good submission tool** and a good person to manage this are also key. The organisation of workshops and meetings was also a good way to build personal relationships and trust within the network.

## SUSFOOD – the project beneficiaries views

### Motivations and value added of trans-national projects

The motivations to take part to SUSFOOD projects related both to the **topic being addressed** as well as the **formation of strong networks** of peers and collaborations between the research and business communities. Firstly, the interest around the specific research topics addressed was rising both nationally and at European scale. In SUSDIET sustainable diet and its links to consumption were only starting to gain attention within the scientific community in 2013 when the project started with numerous ideas still to be explored. In COSUS, working on food waste – a hot topic in Denmark and in Europe – was the main motivation to take part.

In addition the idea of bringing together **inter-disciplinary teams of researchers** from different disciplines was an interesting way forward to address these “new” issues.

*“It was an exciting project with very experienced and qualified researchers in this field as well as in complementary fields (the partners were knowledgeable all along the food chain process).”... Having industrial partners was also a good point of the project. (SUNNIVA beneficiary)*  
*The collaboration with academics outside her field was a positive outcome of the project for a COSUS beneficiary. She engaged with a multi-disciplinary team of partners in a new area of research for her. Since this project she attends more conferences around the theme of Food and Food waste.*

In some cases the gender dimension was highly appreciated. *“It was also nice to have a team of young junior female researchers leading and working on this project. It was very collaborative; no conflict along the project and this explains why it was also a success.” (COSUS beneficiary)*

Another motivation mainly had to do with creating a **strong and stable consortium/team of researchers** at the European level. For SUNNIVA partners, for instance, the opportunity was offered to network with the European scientific community but also with industries in other countries. Another reason to take part to the SUNNIVA project was its scale. Compared with national projects in Norway, SUNNIVA was larger in scale in the sense that it involved almost all aspects of the food chain from harvest to the waste.

*“There is an initial cost of building a network, in the sense that you have to build a common understanding of the objectives and of each-others methodologies. SUSDIET helped to create such network” (SUSDIET beneficiary)*  
*“In my country there was no funding on this topic (consumer behaviour/diet/sustainability). Even if the fund of SUSDIET was limited (about €50 k) the quality of the partners was a great incentive to participate.” (SUSDIET beneficiary)*

## Main outcomes

**Building scientific capacity** and **strong networks of researchers** that wish to sustain their collaboration are the main outcomes as recorded in the beneficiaries' testimonies.

*"It ended up well for us...We were the first to publish on that topic in our field". (SUNNIVA beneficiary)*  
*"Hiring a PhD student was a great bonus and even more to associate him with European partners and publications." (SUSDIET beneficiary)*  
*"A research assistant was involved in COSUS. She then became a PhD candidate with publications and participations to scientific conferences even before starting her PhD. So it's a great advantage for her future career." (COSUS beneficiary)*

The **experience of coordinating or being involved** in a European project is an equally important benefit in terms of skills development. The COSUS coordinator had no experience of European-scale projects but she used this experience in writing proposals for other projects and also uses these new skills in her new position as business development executive in the meat industry.

**Publications and conference presentations** were the main academic outputs associated with the projects. In COSUS for instance, the team produced numerous high-quality scientific publications including one in *Science*. Yet, it is interesting to note that the team decided to follow an open access and faster track publications strategy. In terms of evaluation of these outputs this might seem of lesser quality. However, open access and fast track publications are actually in line with the objective to have a societal impact as they enable large-scale and faster diffusion of results. This aspect is not usually considered in evaluation of researchers' careers or in the evaluation of projects by national agencies.

Other projects like COSUS attracted **attention also in the media**, i.e. by a national newspaper in Norway reaching out to 15-20% of the national audience, by a national radio in the Netherlands and in specialised media such as in food industry or farmers magazines. The team keeps on receiving invitations for interviews. In retrospect, the coordinator admitted that she should have tried to include the media at an earlier stage.

*However, "it's quite amazing how much we did with so little money...we've made the most of what we could get". (COSUS coordinator)*

At the same time, certain projects in SUSFOOD produced **new processes and products or services**. For instance SUNNIVA developed a pilot food product which is now protected by a Trademark and devised new processes that were successfully implemented by the industrial partner in the project.

Another dimension of impact that surfaced was the **reputation** that the success of certain projects created and how it affected the 'behaviour' of the country in the network. The success of SUNNIVA for instance contributed to the decision of the Turkish Ministry of Agriculture and Livestock to participate in the SUNNIVA-2 call.

## Intermediate and long-term Impacts

The creation of **stable networks of researchers** is highly appreciated even though they are not as 'tangible' as publications or new products. Because of the strong expertise of the partners and the trust that was built along with the willingness to continue researching some of the topics addressed, the SUSDIET partners decided to form consortia to bid together on following relevant calls (e.g. a forthcoming H2020 project). Even though the Danish national agency decided not to support research on the consumer side in SUSFOOD-2, the COSUS partners are planning to bring proposals together in order to bid to other calls (European or international) in the near future.

*“...intangible outcomes (e.g. the existence of the network itself) is harder to measure but part of SUSDIET impact relies here” (SUSDIET beneficiary)...This ERA-NET project had a clear impact on densifying the scientific community as well as connecting it with some industrial partners in this area. It should bring more scientific outcomes in a near future (e.g. SUSFOOD-2 proposals) and overall it improved (qualitatively) the network of each partner. (SUNNIVA beneficiary)*

**Networking between research and industrial partners** is beneficial in the sense that it can also lead to additional collaborations. For instance, a SUNNIVA beneficiary established further collaboration with the Belgium industrial partners. This was not scheduled but they found a common interest of working together on a side project.

On the other hand **impacts on policy** although relevant are still too soon to look for. However, interest is rising.

*“(Policy impact) is not about the implementation of recommendations/results - if countries implement them or not depends on so many other variables/context - but it is more about “how much of the results are nourishing policy makers’ thinking”, how sensitive will the future policies be regarding these issues and their results. “This is hard to quantify”. (SUSDIET beneficiary)*

*The issue of food waste is more than ever in the political arena. It is not entirely due to the COSUS project, but COSUS has played a small part to bring more awareness and scientific knowledge to this issue. (COSUS beneficiary)*

*On the other hand a small project like this (€ 1.4 m divided amongst 4 partners) isn’t big enough to capture the policy maker’s attention and not enough to ensure the involvement of industrial partners (for whom food waste is often a limited part only of their interests). (COSUS beneficiary)*

As another example, the COSUS project aimed at reducing food waste. However, this aim cannot be the main criterion of the project’s assessment as it is impossible to know how much of the recent drop in food waste can be attributed to the specific project. Recent developments such as the agreement signed between the main food producers and retailers to reduce their waste by 25% in 5 years in Norway will have a larger impact on reducing food waste. Yet, the project contributes to the same direction through its research results.

However, COSUS also aimed to make science that is relevant for society and transfer knowledge. The partners shared their results as widely as possible to the EU, board members, and stakeholders in the different countries involved. Many of the stakeholders contacted partners to tell them that they found their research useful.

**Impact on industry** is also feasible although it needs time to materialise. As an example, the scientific work of SUNNIVA led to a pilot product and proof of concept that was useful for the industrial partners. However, it takes time for industry to adopt a new technology and thus to benefit from it in terms of cost reduction or environmental benefits. Additionally, small businesses may not be able to afford the cost of research of changing from one process or technology to another. In such cases SUNNIVA and similar projects are very useful as they test and provide proof of concept for certain changes.

The **potential for further impact** should also be recorded. All the projects noted the potential to keep publishing papers and bring other scientific outcomes related to the specific research in the years to come. Additionally, the knowledge and network of partners created are instrumental in continuing the research in follow-up projects in SUSFOOD or H2020.

### **Main success and relevant factors**

The ERA-NET instrument was generally appreciated as **flexible, easier and more efficient** than other trans-national programmes. The administrative burden was much more limited in comparison

with H2020 or FP7 projects and the fact that the financial reporting relied on national funding agencies of each partner made things easier. In this way the coordination of the project was quite easy and allowed coordinators to focus on important things such as dissemination and communication amongst partners. Even in the case of RF Cooking Ham that was delayed by a year due to health issues of the initial coordinator *“the flexibility of the scheme and the creativity of the team allowed them to test alternatives which happened to be interesting”*. (RF Cooking Ham subsequent coordinator).

The **quality of the coordination** and the **selection of partners** were crucial for the success of the project along with the design and framing of the project. Openness of the partners for feedback and respect for each other along with enthusiasm for the topic are also key.

*“You need to have a coherent picture of where you want to go in order to bring the pieces of the puzzle together (...) complementarity of the partners – from the start - is key”(...) “You then need to coordinate these people and help them understand their role within the project/system”. (SUSDIET beneficiary)*

*“You just have to trust the partners, not to over-rule, listen to advice from partners, to maintain contact with industries, to think applied science, to have room for partners to present and to discuss their results, to have interactions between WP leaders and not to interfere with publications or dissemination of results” (as long as it is not sensitive/secret information) (SUNNIVA beneficiary)*

*The success of the project also stands on the “collaborative spirits of everyone involved in the project, (...) people were engaged and productive and the people worked together on other proposals at the end of the project which is a good sign of success” (COSUS beneficiaries)*

### **Main challenges and areas of improvement**

The **role of the national agencies** in supporting the researchers while monitoring the projects was highlighted in the beneficiary interviews. It is important to have a knowledgeable and interested official to follow the project progress.

*“Your contact needs to have a certain background to understand what the project is about and how to help you.” (SUSDIET beneficiary)*

The experiences with national agencies varied from one agency to another. While in some cases contact and support were infrequent or even absent, in others they were quite the opposite. For instance, in the case of RF Cooking Ham the national funding agencies were flexible in allowing delays to the project partners due to the health issues that challenged the Coordinator.

**Quick procedures to acquire the national funds** to start the project are essential. This is not always easy. In some cases the trans-national project had to be framed accordingly to fit the national context. This is a challenge and may cause significant delays for the respective beneficiaries to start their work in the project. In addition, when projects are multi-disciplinary they address several issues and areas that are not necessarily matching those of a national agency.

The decision of some countries to cease funding in certain topics (such as sustainable consumption or consumer behaviour in SUSFOOD2) was unfortunate. This meant that the consortia could not bid for continuation of their research. This might reflect miscommunication or lack of coordination between the national agencies and the respective research communities working on these topics. On the other hand, national agencies noted that having an informed scientific community around the particularities of the ERA-NET scheme and its procedures was a challenge, sometimes, despite increased efforts to achieve this.

Several projects acknowledged that the **involvement of relevant stakeholders**, be it policy-makers or industrial actors where relevant, should have been supported with adequate resources.



## The ERA-IB experience

### Motivations and patterns of behaviour of network members

Industrial Biotechnologies (hereafter IB) was an **emerging topic** back in 2007 that slowly became a key topic for many countries. Increasing the **effectiveness of IB research and improving the alignment** of national R&D programs at the European level were the main motivations behind the creation of ERA-IB. The network aims at bridging the fragmented research on IB in Europe and enhancing collaborations. This is done through joint calls that fund applied collaborative research between academics, industry and SMEs with a total budget amounting to €130 m over the past 10 years.

The network connects various organisations from different countries, but ultimately the collaborations rely heavily on individuals rather than institutions/organisations behaviour. Nonetheless, there are some observable **differences across countries** that may underline their 'behaviour' in the network. On the one hand, there are **resourceful** countries like the Netherlands or Denmark and on the other, countries with fewer resources available whose contributions may be inadequate to cover participation of their researchers in successful projects. At the same time, there are countries that are **more involved** in the network procedures than others. Associated to this is the **level of interest** in the scientific topic addressed as well as the level of **experience** in European projects. It is still the case that the EU-15 countries are usually leading evolutions in the network and are those that are more involved in coordination and funding.

### Expectations and achievements

The overall expectation from the network was to bridge the scattered research agendas under a common and **shared European agenda for IB** in collaboration with SUSChem<sup>3</sup>, i.e. the European Technology Platform for Sustainable Chemistry. The network members consider that this has been achieved. However, it is important to note that the majority of national funds are still channelled to national research communities through national programmes. An ERA-NET (ERA-IB) is not enough to change this trend. Aside developing and sharing a common agenda, ERA-IB opened the opportunity to co-fund projects that could not be carried out nationally as they needed large infrastructures or databases available elsewhere.

The participation of **resourceful and experienced** countries in the network offered a real added value to the collaboration and offered project beneficiaries the chance to make new partnerships, and become part of high-quality projects. Less resourceful beneficiaries such as SMEs also benefited in terms of becoming more international and getting through the experience of participating in a European research project. ERA-IB was successful in enhancing collaboration with industrial actors in the bio-economy area. This has been achieved by making joint calls with other relevant ERA-NETs such as EuroTransbio<sup>4</sup>, Marinebiotech<sup>5</sup>, and ERASynBio<sup>6</sup>. Overall it is considered that the network presents a positive impact despite the limited funds made available (€130 m for ERA-IB vs. €3.8 b for Bio-Based Industries Public-Private Partnership, BBI JU<sup>7</sup>).

*It is important to note that expecting creation of x jobs or an increase of € x million sales in IB will be illusive regarding the scope, the timing and the funds involved in ERA-IB.... More complex but equally interesting would be to assess the contribution of ERA-IB in improving the visibility and reputation of the IB sector.*  
(ERA-IB network member)

[www.bbi-europe.eu](http://www.bbi-europe.eu)

The industrial biotechnology sector is not anymore the 'evil' DNA-modified plants

industry, although it would be hard to attribute this to ERA-IB alone. Overall time will show if the network was successful in the long run to build a stable collaboration as well as a real critical mass in the area.

## Challenges and good practices in managing the networks

When it comes to building a network **trust between partners** is the first thing to consider. It involves making sure each partner is not restricted by financial considerations and that no partner feels excluded/not rightfully part of the network. Trust building implies regular meetings, especially the first years and avoiding the development of 'closed clubs'.

In relation to governance, a **simple and manageable governance structure**, e.g. network partners, work-package leaders and a limited number of board members with committed people, is a good practice. Because of the area being addressed, it is also crucial to have industrial players involved (from SMEs to large companies).

**Ensuring national commitments** is a serious challenge for any ERA-NET. These may change due to political changes or changes in priorities that are made at the political level rather than in consultation with the research communities. It would be helpful if the European Commission could persuade the national funding agencies/ministries to reserve a fixed percentage of the national research budget for initiatives such as Cofunds.

## ERA-IB – the beneficiaries views

### Motivations and value added of trans-national projects

Motivations for participation were primarily related to **advancing scientific knowledge** and expertise, gaining access to **high-quality expertise** available in the consortium, **establishing (new) collaborations** with EU counterparts, getting **access to additional** funding and improving the **international profile** of the teams and the participating organisation. In many instances the coordinator was the driving force in building the consortium and personal contacts were the primary way to do this. The opportunity to collaborate with industry was also much appreciated.

*"It was an exciting research problem. I am a theorist so the possibility of collaboration with biologists and industry was very exciting." (FiberFuel beneficiary)*

*"This [working with industry] would have been difficult in other circumstances e.g. in large companies access to the right person might be difficult whereas a research project allows you direct interaction with the right people inside companies and organisations." (FiberFuel beneficiary)*

The **interdisciplinary approach** followed in projects was another interesting challenge that attracted project partners to get involved.

*"The actual motivation was the attractiveness of the possibility to apply an interdisciplinary approach in the specific field which is only possible at the transnational level as the different types of knowledge required is not available in any single country alone." (SCILS beneficiary)*

Positive previous experiences of international collaborations also encouraged participation alongside the appreciation of the **simpler administrative procedures** especially when comparing ERA-IB projects with FP or H2020 projects where participation is considered more complex.

*"The ERA IB network provides a very good framework for collaboration with partners in the EU and as an alternative to H2020. We had previous experience in a successful application to ERA IB and it was the obvious choice for us to apply with a new research network to the ERA IB network.... The application procedure in ERA IB is simpler than in FP7 and for this reason it was natural to apply*

*through this channel. ...it was much more relevant for us to go to ERA IB because the effort in making a proposal is more reasonable...you can focus on the science and this is a very important point.*  
(SCILS beneficiary)

### Main outcomes

The primary outcomes had to do with the **scientific outputs** produced as well as the opportunity to study how certain approaches are dealt with in different countries. This resulted in numerous publications, some with the project partners and some on their own. For instance FiberFuel enabled the production of around 40 papers, 5 PhDs, 2 research exchanges and more than 30 invited speeches to conferences.

*“From an academic point of view we have developed several new experimental approaches to simulate how the microorganisms ‘behave’ in the environmental conditions when they are used in an industrial environment. The main idea was to develop experimental tools working at that scale which can simulate the conditions at the industrial scale”* (SCILS beneficiary)

*“With the project we have gained more expertise in our scientific research and from my point of view this is very important because we are in a better condition and more competitive to apply for more third party research funding.”* (SCILS beneficiary)

Apart from achieving scientific/technological results, the improvement of **competences and skills** were noted, that on some instances increased employability.

*“We were able to hire a post doc and a lab assistant/engineer. One of them had access to a permanent job in industry because of the project.”* (FiberFuel beneficiary)

*“We had lots of PhD and master students that received their degree and all of them are now working in industrial biotechnologies and mainly in Europe.”* (SCILS beneficiary)

*“Overall very pleased with the results achieved [although expectations were too high to start with]. Also very good was the involvement of two PhD students from two different labs one from Cologne and one from Portugal, working with post-doctoral scientists.”* (PRODUCE beneficiary)

The **interdisciplinary** approach followed, although it seemed quite a challenge at the beginning, was usually appreciated in the end. The projects were a stepping stone towards larger and more ambitious projects usually targeted towards EC Framework Programmes.

*FiberFuel was the small version of the second and larger project (CellulosomePlus) that made them visible at the international level. It served as a springboard and really fuelled the second project. It would not have been possible in the absence of the ability to test the research in a smaller scale that was enabled through FiberFuel.*

### Intermediate and long-term Impacts

Benefits in terms of **expanding existing networks of international collaborations**, or making new ones, which then offered new opportunities for collaborations were highlighted. These benefits usually bring increased **reputation and high prestige**.

*“FiberFuel was not a lot of money – but what really made the difference was the success in getting the partners together in a very concise, common effort to achieve a common goal....Long-term interaction has been achieved that is sustained to today... The award contributed also to the prestige of our group in the Institute”* (FiberFuel beneficiary)

At the same time the follow-up collaborations may contribute to bringing new solutions to the market. In particular the **opportunity to collaborate with industry** was strongly highlighted.

*“Fiberfuel enabled the very necessary interaction with industry to show the potential of this method of energy production” ... “after the further developments of the NMP project [follow-up to FiberFuel] we expect that soon we may offer an enzymatic solution to the biofuels industry that could compete in cost and efficiency with current enzymatic cocktails.” (FiberFuel beneficiary)*

*“During the project the industrial partner understood much better how to treat this organism [that is] necessary for the production in the bio-reactor so that they could reduce the production costs in terms of energy and material inputs per unit of product. The company had a significant gain.” (SCILS beneficiary)*

*“The problem was generally less studied before, now there are more publications on the issues also looking at other plant systems (i.e. moss). There is now a handful of companies that since [the project] have tried to establish plant systems in the production of recombinant proteins and are now addressing this problem. In this sense the project made quite an impact not only in our organisation.” (PRODUce beneficiary)*

FiberFuel is expected to lead to increased opportunities for users to reduce their operating costs, improve the quality of their products or service under a genuinely environmental approach, while also increasing chances for both research and non-research job creation.

In a similar vein, SCILS succeeded in optimising the processes elaborated by making them cheaper and inventing new tools and processes. This can have a direct impact on bio-economy especially in terms of making the use of renewable resources more cost-efficient. In this way it can make a contribution to more green jobs in Europe as well as scientific jobs in research and development.

Associated with the further continuation and exploitation of the research, the **need for further funding** has been evident. In many cases this is achieved through follow-up projects. In others the search for funds is still on-going.

*“The system was validated and we are making use of the results obtained but we need to acquire additional funding to continue. We learnt stuff that did not imagine at the beginning: i.e. the content of the protease was far more complex than what we envisioned before we started the project. In order of magnitude (20 times more complex) and made it difficult to escalate to the next stage. ... We will follow up.” (PRODUce beneficiary)*

### **Main success and relevant factors**

Project beneficiaries that enjoyed significant experience in national as well as European and/or international projects were comfortable to compare ERA-IB supported projects and stress their positive elements, including the involvement of the private sector.

*“FiberFuel was comparable to other projects: i.e. highly ambitious, enabling complementarity of diverse scientific expertise but smaller in terms of scale/budget” (FiberFuel beneficiary)*

*“It was the first real project that I took part and included an industrial component that was emphasised and led to another larger EU-funded project (an FP7 project from the NMP program: CellulosomePlus) and then a third one for my institute.” (FiberFuel beneficiary)*

*However, the restriction in partner selection was also noted: “Not every EU member country is participating and the selection of ‘ideal’ partners is highly restricted...this led to redesign of the consortium but to a suboptimal level” (PRODUCE beneficiary)*

ERA-IB projects acted as the first step towards international collaborations that followed for many of the beneficiaries. At the same time the value of international collaboration was made clear.

*“The added value of a trans-national project is that it provides access to international expertise, and enables delivery of higher quality outputs within less time and with more ambitious objectives.”*

*“Although FiberFuel involved a small amount of money, the project was absolutely critical to start international networking. It acted as the starting platform that was needed in order to create international networks and proceed to more ambitious and larger scale project applications and collaborations.” “Overall it was a great pleasure and are thankful for the opportunity to continue research in the area through successor projects” (FiberFuel beneficiaries)*

Several lessons can be learnt that have to do both with the **management** but also with the approach to dealing with the research questions in a project. The **capacity to work as a team** is essential but quite difficult to achieve in an international and inter-disciplinary team. Setting **realistic goals and applying a problem-solving approach** is of equal important. The consortium as well as the research objectives has to be defined in line with the identified problem. **Involvement of users** is key. The coordination has to ensure **effective and synergistic collaboration of partners** (each one complementing, supporting and following-up the rest).

*“The difference was made by the choice and collaboration with other partners. All willing to collaborate, worked hard on their WPs.” (SCILS beneficiary)*

Some specific procedures followed by the ERA-IB networks were also appreciated. In particular the mid-term evaluation of projects was an open, transparent process and the feedback received was appreciated. The final event was also useful as project partners were able to see the achievements of the rest of the partners and also the other projects where synergies could be created.

The **size of the consortium** also needs to be manageable. In the case of EU projects the size is usually bigger which makes it difficult to collaborate and benefit from each and every partner. Attendance in meetings has to be adequate to allow enough time and attention about the next steps and any emerging issues

*“Overall, however, we were very glad to have participated in SCILS. Despite the difficult circumstances in funding we were able to achieve most of the objectives set – although they were quite ambitious to start with and gained much knowledge and tools that we can capitalise in future projects” (SCILS beneficiary)*

### **Main challenges and areas of improvement**

Challenges in the ERA-IB projects studied recalled the **role of the national agencies** and the need for **reaching out beyond the scientific community**. In addition projects **budgets** were overall considered **limited** which made beneficiaries even more enthusiastic about their achievements.

Some national agencies were quite supportive to the projects with regular communication and organisation of interactive processes to monitor progress (through interviews for instance). However, the fact remained that in most cases proposals had to be submitted also in the national language to the respective national agencies and project reporting had to follow the network-level as well as the national procedures. This **double reporting was an extra burden** for beneficiaries although they seemed to have taken these requirements for granted. At the same time, having to deal with the national agency made things easier as all beneficiaries were knowledgeable about the national procedures to follow.

Some agencies were quite helpful in providing advice and explanations on setting up the budget and writing the proposals. Yet, the **implementation** phase was **challenged with delays** in some cases. In the case of SCILS for instance, the start of the **financial crisis** in Spain caused delays in the starting of the project as the availability of funding from the Ministry needed to be verified. Eventually the funding of the Spanish partners was made possible approximately 1.5 years after the project start. This significantly limited their involvement in the project and their ability to deliver what was expected from them.

On the other hand, there were cases where national agencies really contributed to effective solutions. In the case of PRODUCE for example, a partner had to move from Cologne to Oxford. The contact point at the German national agency was quite helpful and found a solution by which the parties that moved to Oxford could continue working on the project.

The **withdrawal** of the industrial partner in FiberFuel highlighted the need for special attention to ensure commitment of the industrial player. Abengoa decided to withdraw from FiberFuel due to difficult financial situation. This hindered the progress of the project as partners had to find a substitute to replace Abengoa's role. This was ultimately overcome with the inclusion of another company. However it caused delays in the project progress.

Another challenge involved the **dissemination of the results**. These were less communicated to other than scientific audiences. Apart from wider dissemination events the need for partners with special expertise to reach out to wider audiences was acknowledged. Nevertheless, other projects such as PRODUCE were widely disseminated through events organised for children and schools where they learned how to produce proteins from plant systems.

The **limited funding** on behalf of some national agencies also surfaced as a serious challenge. In the case of PRODUCE for instance the amount of money available for the Portuguese partner was small. The Portuguese funding agency has set a threshold of 100k € for each Portuguese organisation participating in networks like ERA-IB. The partner was granted 80K € and in addition they had to give 20% to the institute as overhead. In the end, the available money was not enough to hire the right people and meet the deadlines set, while other restrictions were also put in place such as the inability to pay for consortium dinners in Portugal during project meetings. These challenges triggered some thoughts on the feasibility and value of the real common pot.

In addition the **different procedures** followed in reporting were echoed as in the case of SUSFOOD projects.

*"We had to file every half year reports to the German funding agency whilst in the UK, it was mid-term and final report to the ERA IB and not to the funding agency. Of course also language came into the mix since the report for the German funding agency was to be done in German whilst the overall report for the ERA IB was to be in English ....Regulations need to be streamlined between EU partners." (PRODUCE coordinator)*

## The CORE Organic experience

### Motivations and patterns of behaviour of network members

The main motivation for creating CORE Organic was the realisation that **national research** in the specific area (organic food and farming systems) is **not adequate**, besides being fragmented, to make significant progress in the field. Thus, the network was created to benefit from transnational collaboration in research. As well as bringing together scattered resources and enabling an **international perspective** in dealing with a variety of problems, transnational research funding also enables a holistic approach in research design and elaboration including the perspectives of **various stakeholders and users**.

At the same time, more 'nationally-oriented' motivations played a role such particularly in terms of opportunity to engage and support the local research communities with **additional funds** and research excellence. The **learning experience** was also appreciated by the network members via collaboration with other partners but also by the chance to work with communities of practitioners

(such as organic farmers). This mutual learning other was highly valued especially as taking part in an ERA-NET is quite resource-intensive.

Naturally there were **differences** in the level of **national commitments and contributions**. These might be characterised by differences in terms of **national budgets, capacities and expectations** although there can be exceptions to the rule. For instance the UK participated in CORE Organic Plus with relatively low funds while Turkey and Romania devoted larger amounts. Germany, Denmark and other countries with long experience and strong capacity in the organic sector research usually made large contributions to the joint calls, whereas, others were able to invest more time in the activities of the network.

CORE Organic played special emphasis in increasing the **participation of low performing countries** (LPC). In particular, in the selection process, between stage 1 and stage 2 evaluation, they hold a selection meeting where every member of the consortium sent a representative. In this meeting they identified which country was under/overspending and in case LPC participants were not in the winning proposals they were recommended/added for inclusion in the successful proposals. Naturally it is up to the project coordinator to decide but until now up to 85-100% of the LPC national contributions have been spent.

## Expectations and achievements

The primary expectations of network members relate to the ability to offer researchers the **opportunity to internationalise** their research and the hope that the networks being formed through the supported projects will **continue collaboration** outside CORE Organic.

*Critical mass creation: within CORE Organic it has been a great priority, and yes – it has been achieved. (CORE Organic network member)*

An important desire of the network members was that the national funding committed to this area is used to the maximum. This has indeed been achieved in the calls organised and the scientific results are effectively exploited and disseminated to end users.

Actually the significant impact achieved in relation to dissemination activities was unforeseen, given that the results coming out of research projects are generally associated to science. The **impact of diffusing results to the users** (farmers) has been so high that CORE Organic designed a permanent service of sharing research results through the 'Organic Eprints' database (<http://www.orgprints.org/>). This is the biggest database related to organic research results, where national experts from the research projects translate findings in national languages for use by farmers and consumers.

## Challenges and good practices in managing the network

A **democratic and participatory approach** in management is essential where partners have one vote regardless of their experience or budget. It is also important to ensure participation of all partners and **spending of all the allocated national resources** of the members.

Project life-long **monitoring and evaluation** are crucial. This can be done by monitoring groups that follow up the projects and the project coordinators who have obligations to report through the life of the project and also ensure the project results dissemination. Additional sources should be ensured to enable dissemination at the national level (in the national languages) and beyond the scientific community (as with the CORE Organic e-prints).

The research in this area could benefit from a **more interdisciplinary approach** integrating social scientists. This is because there is a strong social aspect linked to ethics and consumer preferences and behaviour which is very important in the organic sector research. On the other hand, a more

interdisciplinary approach might bring difficulties in securing funding and assessing impacts due to the existing fragmentation across scientific disciplines as well as policy sectors.

The area of organic sector research **involves different ministries** (e.g. Ministry of Agriculture and Ministry of Research). This has implications on how the research is approached by each Ministry, i.e. the support to farmers is the primary concern for the Ministry of Agriculture while for Research it is primarily the support to scientific excellence. This affects the ways the projects are selected and prioritized and sometimes two ministries from the same country have different reactions to the programme.

At the same time, **synchronisation of national legislations and priorities** under which different agencies operate is a major challenge. It is not possible to influence their diversity or the diversity of national legislation. This is quite constraining but also stimulating for the network as it needs to identify new ways to make its transnational nature operational. Trying to overcome national interests and think as a collective is key.

## CORE Organic – the beneficiaries views

### Motivations and value added of trans-national projects

As in the case of the other projects studied, the **scientific challenge** was the main motivation for the CORE Organic project beneficiaries to participate combined with the **opportunity to collaborate with international peers** (researchers) as well as **users**. The **interdisciplinary nature** of the approach was also attractive even though it may have seemed a serious challenge at the beginning of the projects. In addition the fact that CORE Organic supported organic research, an area that was underfunded at the time, also played a role. Participating in the projects offered the chance to interact with people with specific competencies which was rare at the time.

### Main outcomes

The **scientific outputs** of the projects were mainly cited as the main outcomes. In the case of Tilman Org for instance the project produced a number of publications and conference presentations and was rated as one of the most valued CORE Organic projects. Interveg was also cited as having produced high-quality scientific results that resulted in a number of publications.

Projects also helped **structure the (new) knowledge produced** and make it available for users. The Tilman Org project created a comprehensive database, which is now publicly accessible, of the characteristics of different weeds and their probability to become harmful for agriculture or to support beneficial organisms as well as other ecosystem services. Due to the experimental nature of some projects such as Tilman Org the research groups involved benefited from focusing on new elements in the field and thus built new knowledge. This added another dimension to their expertise.

The results were **disseminated beyond the research community**. Tilman Org triggered significant interest from farmers, even the non-organic community which is even more important. The interest of the farmers was attracted also in the case of the other CORE Organic projects studied.

As another outcome, the projects were very good in **building up networks**. The development of the research environment involved, and the learning process of working in a trans-national community was highly appreciated.

### Intermediate and long-term Impacts

The high-quality of scientific outputs usually leads to **capacity building** and **personal acknowledgement**. A researcher in Tilman Org believes the project contributed to one of her best papers. A beneficiary from Lithuania, from the ICOPP project, reported that, apart from working in an



international team, getting to know best practices on how to do research was an extremely good experience along with the understanding of what interdisciplinary research is.

*As another researcher put it: "Cross-disciplinarity is a challenge but a welcome one. You need to understand each other's demands for the specific disciplines and people need to be open minded. ...Cross-disciplinarity might lower the overall quality but at the same time all partners learn." (Interveg beneficiary)*

A second type of impacts has to do with **reputation** (i.e. symbolic impacts) that was noted as important for both the individual researchers as well as the participating organisations. This was particularly important for the younger researchers in the projects. It is usually the **learning experience that enhances capacity** and reputation which then leads to **successful follow-up efforts** to continue the collaboration in research in the specific area.

*"The organisation's reputation increased and [we] became a more desirable partner. The researcher is now in another CORE Organic and a H2020 project with some of the same partners from the project." (Tilman Org beneficiary).*  
*"The organisation was already strong in organic research but this has strengthened its name further in the EU community. This led to further funding with the same partners and larger consortium... Now the organisation is leading the consortium for the last round of CORE Organic, which was an achievement linked to the learning process gained from the previous experience in CORE Organic. This is very satisfactory both for me and the organisation....The Italian team was acknowledged to be very effective at the international level. So after this experience the team continued to improve its connections to the scientific community working on organic farming. As a follow up, 3 out of 4 more research projects were won on these topics."*  
*(Interveg beneficiary)*

Reputational or symbolic impacts may relate to the national level as well apart from the personal and organisation level. The participation of the Lithuanian team for instance in the ICOPP project proved their ability to undertake research in the organic field although this area was not that developed in Lithuania.

*"Lithuania has developed its role in CORE Organic and has around 8-10 projects, but we were the first so ICOPP demonstrated that Lithuania could participate to this type of networks" (ICOPP beneficiary)*

The value of participatory research was echoed also in terms of **engaging the user community** i.e. the farmers. This shifted the views of some project partners, who now understand that involving the farmers since the very beginning bears very good and unexpected results.

*"Participatory research is providing forms of bottom-up innovation which are already tested once the project is finished and thus create much more valuable results". (Tilman Org beneficiary)*

As far as **policy impact** is concerned there is evidence that some project results have direct policy implications. In the case of Tilman Org for instance the database created may trigger new ideas for agro-environmental schemes (EU Common Agricultural Policy). The research done under Interveg contributed to putting organic agriculture on the agenda in certain countries, which holds promises for more impact in the future, and also helped change the views of farmers and growers.

*“Some growers were very sceptical but the results showed them there was potential for an economic and environmental impact for industry. The project has proved that our findings are efficient solutions and this has created interest and opened their mind in this direction.” (Interveg beneficiary)*  
*“This project initiated a discussion (in Italy) on the idea of ‘agro-ecology’. Interveg was used as a Trojan horse to push the discourse on the national agenda” (Interveg beneficiary)*

### **Main success and relevant factors**

The **role of the coordinator** and the quality of coordination were reported as the main success factors. Associated to this, the **team composition and interaction** and the resulting **trust** were highly valued. Some of the partners teamed up to form new consortia and submitted proposals either in CORE Organic II or H2020 to continue research in the area and keep enjoying the good experience in collaboration.

*“I have extremely fond memories of the Tilman Org project...high levels of confidence in the team of people working together was key to this and created a special atmosphere of trust and collaboration which improved overall engagement and project results.” (Tilman Org beneficiary)*  
*Ultimately, one of the reasons of the project success was a good coordinator: not dictating too much but having a clear idea of where the project as a whole was going, thus leaving to each WP leader the right amount of autonomy. (Interveg beneficiary)*

However, this alone is not enough but has to be accompanied by **good science and rigour** in the team. Reaching out to the user community was also seen as a success factor. The organisation of field days, in the case of Tilman Org was considered a good practice. During these events technicians were brought together with farmers to visit the field trial and get explanations about what is happening in a more practical way. This facilitated contacts and knowledge sharing between researchers and other stakeholders.

However, this was not easy to do especially for researchers that were not used to working in **multi-actor environments**. Thus, some were more ready to disseminate to a wider audience, while others were more comfortable with diffusing results to their fellow scientists.

*“However, those [that were] less ready learned quickly both the relevance of disseminating to a wider audiences (e.g.: farmers) and how to do it”. (Tilman Org beneficiary).*

The Interveg experience also produced valuable insights about the involvement of the users. The impact on end-users (farmers) should have been planned differently. They could not convince farmers about the strengths of the technique produced. The associated costs of adopting the new technique were large and farmers would have to organise a transition which again would be costly. On the other hand, the economic advantages of the new technique would not be so high although the environmental advantages would be much stronger. Ultimately there were no resources to have an analysis on this trade-off and expertise in social sciences to help mitigate this was not present. This however, made the researcher think clearly about the value of co-research (with end-users) approaches and the importance of involving stakeholders and actors at the beginning of the project.

### **Main challenges and areas of improvement**

The **budget** available was a challenge for most projects as it was considered limited especially in the cases where experimentation and field trials were essential. This created problems in hiring people. In some cases this was overcome by combining resources from other relevant projects. However, in other cases it delayed the project implementation and seriously jeopardised its success.

*“We knew what we could apply for but once defining the details it was harder because of the different funding conditions in the different countries [...] So some countries could do more than others due to differences in costs...”. (Interveg beneficiary)*

Communication with the **national agencies** was important as in the previous projects studied. With some agencies it was excellent and quite supportive while with others it was characterised as impersonal and lacking interest. At the same time, some national agencies loosened their monitoring of the projects as they trusted the CORE Organic network for this task so they had a lighter touch on controlling.

Some agencies failed to understand the relevance of the topic being addressed by the project with their own priorities and that a few more resources would have gone a long way in terms of results and impact. **Progress reporting** was done both at the network level (in English) as well as in the national language, which created an extra burden on the researchers. In addition, some beneficiaries had the experience of working with, **other than research, ministries** for the first time, which also proved to be challenging.

## A cross-network analysis

The above analysis brings forth the similarities of motivations, expectation, achievements and challenges across the different projects of the three networks studied. The results of the pilot survey (that represented 23 projects) largely confirm the interview findings but also complement them with certain qualifications. In addition advanced statistical analysis of the pilot survey results highlight a number of interconnections that are worth mentioning (cf. Annex II).

Most of the beneficiaries responding to the pilot survey were motivated by the opportunity to 'develop new knowledge in the subject area' and 'build scientific relationships with organisations in other countries' (ERA-LEARN 3rd Annual Report on Public-Public Partnerships)<sup>8</sup>. Providing some refinement the interviews revealed the intriguing challenge of applying an **interdisciplinary** approach which was most appreciated eventually. The opportunity to **work with industry** was also an additional qualification in the motivations and an outcome that was highly appreciated.

When comparing the transnational projects to those of EU Framework programmes, interviewees indeed appreciated lower bureaucracy, flexibility, and solutions-orientation. (ERA-LEARN 3rd Annual Report on Public-Public Partnerships) Additionally, they noted the **smaller scale of transnational projects and the importance** of carrying out research at this scale as a test bed that then led to larger-scale implementation through more ambitious projects.

Almost all survey respondents agreed that the main exploitable outcomes for their organisation were 'improved scientific evidence base' and 'enhanced research network to compete for future European project funding'. (ERA-LEARN 3rd Annual Report on Public-Public Partnerships) Interviewees added the importance of dissemination activities and reaching out beyond the scientific community. Actually the **involvement and influence of user communities** was considered both a major outcome as well as factor for success.

The majority of respondents agreed that the expected impacts on their organisation would include improved **access to networks; higher profile** within the European/international research community; improved **competence and skills**; increased **interest in R&I partnerships** with organisations in other European countries and **additional research income**. In particular, the science/innovation-related and behavioural impacts exceeded original expectations for almost all of the respondents. (ERA-LEARN 3rd Annual Report on Public-Public Partnerships) These results were also reflected in the interviews where partners highlighted the importance of networking between research and industrial partners, alongside the **impact on policy and industry** and recognised the **potential for further impact** in the years to come.

Naturally, those respondents that were highly motivated to participate in trans-national projects because of the opportunity to access public funding appreciated additional research income as an impact on their organisations, whereas those that were triggered by the opportunity to develop new knowledge in the subject areas appreciated the impacts related to seeking R&I partnerships in other European countries. On the other hand, those that were mainly interested in building commercial relations with counterparts abroad highly appreciated the economic impacts achieved (i.e. reduced operational costs, and increased European/global market share) but also improved competences and skills, while building commercial partnerships was highly associated with the patenting activities. Interestingly motivations in relation to building capacity related to both economic impacts (i.e. reduced operating costs, increased commercial income, increased EU/global market shares) as well as environmental impacts (i.e. improved environmental performance of your organisation). (cf Annex II)

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<sup>8</sup> <https://www.era-learn.eu/publications/other-publications/3rd-annual-report-on-p2p-partnerships>

In relation to key factors for success **consortium leadership** and **quality of interaction** with other project partners seemed to be the most important. Adding to this, the availability of **adequate resources** (time, money) was highlighted especially by those survey respondents that had significant experience in trans-national projects (e.g. ERA-NET) in comparison to those with relatively stronger experience in EU Framework or other international programmes.

One of the most interesting issues that emerged during the interviews concerns the **role of the funding agencies** during the course of the projects, which appears to be an important factor in the success of the project and its subsequent impact. The support of the national agencies especially in case of problems was highly appreciated, while its absence was negatively commented. Quick procedures to acquire the national funding is essential for the smooth project progress, although that was not always the case, but the requirements for double application submission and double reporting and the different procedures of participation put unnecessary burden on the beneficiaries.

Below we present the results of advanced statistical analysis of the ERAC survey respondents with particular focus on the different national procedures.

### **Different national procedures: a structural issue!**

The ERAC survey provided an opportunity to see how important is the issue of the different national procedures for participation that have to be followed by project beneficiaries. The overall results show that the submission of applications to both national and central platforms, double evaluations and getting through the red tape were perceived negatively by project beneficiaries. The following issues were considered major or moderate challenges from the applicants' point of view:

- Different rules for research funding between participating countries resulting in complex management of grants (80%);
- Different timing in securing all national funding contributions for selected projects resulting in delays/cancellation of project start (74%);
- Different grant management and reporting procedures resulting in double reporting (59%)
- Different proposal submission or evaluation procedures resulting in double submission and/or evaluation (57%).<sup>9</sup>

When looking at how the different types of beneficiaries perceive the above challenges we see that both partners and coordinators find them very hindering irrespective of their role in the project. (cf. Annex III) In other words, improved skills or experience in coordinating transnational projects would not improve the way the challenges are perceived by beneficiaries. Thus, they need to be addressed by structural changes rather than training.

Going further, we looked at whether the type of involvement of the beneficiaries in P2P projects as partner only or coordinator is related to how they experienced the following procedures (cf. Annex III):

- a) Consultation on priority topics for transnational calls
- b) Communication of information on the call for proposal
- c) Communication of application rules and evaluation of proposals
- d) Eligibility of potential partners in other countries
- e) Project proposals submitted to a central platform
- f) Project Proposals submitted both to a central and national platform
- g) Centralised evaluation of proposals
- h) Evaluation of proposals both centrally and nationally
- i) Feedback on the results of proposal evaluation.

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<sup>9</sup> <https://www.era-learn.eu/publications/other-publications/erac-ad-hoc-working-group-on-partnerships-survey>

Overall, both coordinators and partners perceived their experience with P2P projects quite positively. However, the coordinators reported a higher level of satisfaction than partners in some of the addressed procedures such as:

- Communication of information on the call for proposals
- Communication of application rules and evaluation of proposals
- Project proposals submitted to a central platform
- Centralised evaluation of proposals

This means that the negative experiences in these procedures can be improved through training or increased level of involvement in transnational projects that can improve skills and competences of beneficiaries.

On the other hand, experiences on the following procedures were irrelevant of the type of P2P participation. In other words, the way these procedures were experienced by respondents was irrelevant of their role in the project (i.e. coordinator or partner only).

- Consultations on priority topics for transnational calls
- Eligibility of potential partners in other countries (geographic, type)
- Project proposals submitted both to a central and national platform
- Evaluation of proposals both centrally and nationally
- Feedback on the results of proposal evaluation

This means that the degree to which respondents perceived as negative or positive these procedures was not associated with whether the respondent was a coordinator or a partner. In the case of consultations on priority topics for instance, one could say that to improve the negative experiences (which may also reflect the absence of such procedures) it would not be effective to provide training or to get the partners more involved in order to increase their experience so that they reach that of coordinators. In order to improve the perception / satisfaction of this procedure for the beneficiaries we need to improve the procedure itself.

The rest of the procedures relate to the different rules across countries (different eligibility rules, different proposal submission and evaluation systems, etc.). In these cases too, the problems associated with the negative experiences are structural, i.e. they cannot be solved by training or longer experience of involvement in transnational projects. This confirms also the previous conclusion that management challenges in relation to different national procedures (associated also with duplication of efforts in the case of proposal submission and evaluation for instance) reflect problems that can only be dealt with structural changes in the way these issues are treated within networks.

## Conclusions

The analysis of the three networks and their supported projects shows that there is a great deal of overlap in the findings (motivations, impacts, challenges, etc.). This can be expected to a certain level given that the three networks address related areas of research under the same instrument (ERA-NET). At the same time, each case reveals additional insights and thus helps form a more complete and comprehensive picture overall.

Thus, it is important to examine impacts of networks not only based on a variety of projects, ideally of successful and less successful ones, but also based on a variety of methods (e.g. on-line survey and interviews). Key findings were captured in interviews that complemented or further qualified the survey results and the survey results were put in the right context when commented during the interviews.

Most of the projects studied had just ended when the beneficiaries were invited to take part in the on-line survey. Naturally, the most immediate outputs and impacts had to do with scientific outputs, improved networking and enhanced competence and skills through their direct involvement in the project activities. However, during the interviews beneficiaries were eager to highlight the potential of additional impacts that were expected in the years to come. These had to do with publications as well as impacts on policy and industry.

At the same time, it is essential to place findings about the success or failure of projects within the respective network context. The cases studied belong to overall successful networks as documented by their continuation over the years and high number of proposals attracted by the respective calls. All three networks are also underlined by effective governance structures giving emphasis to the involvement of stakeholders and users in particular. This is reflected at the project level where the involvement of users is considered important and has been successful, although at different degrees from one project to another.

Member countries may 'behave' differently in the network based on the level of interest in the topic, their experience and expertise and level of available national funds and 'internal' research capacity. However, a shared belief across the three networks was that the funds made available are not enough given the rising importance of the area in the national and EU agendas. This was again reflected in the project beneficiaries who noted the limited project budgets as an important limitation in some cases.

The issue of different national procedures and rules and the implications that this causes to project initiation and management surfaced as a challenge for the smooth running of the projects. As the analysis showed this forms an important deficiency that can only be dealt with through structural changes in the way these issues are treated within networks.

The pilot exercise proved quite useful to draw conclusions both in relation to the methodology that should be applied in P2P project-level impact assessment as well as in relation to the identification of impacts, the timing of impacts, possible interlinkages among them and key factors for success. Based on the findings the Guide for P2P impact assessment (<https://www.era-learn.eu/publications/other-publications/guide-for-p2p-impact-assessment-1>) will be revised accordingly.

## Annex I: Links to the projects' websites

### SUSFOOD2

- COSUS - Consumers in a sustainable food supply chain: understanding barriers and facilitators for acceptance of visually suboptimal foods. <https://susfood-db-era.net/drupal/content/cosus>
- RF-cooking of Ham - Rapid industrial scale cooking of boiled ham using radio frequency electric fields, <https://susfood-db-era.net/drupal/content/rfham>
- Sunniva - Sustainable food production through quality optimized raw material production and processing technologies for premium quality vegetable products and generated by-products <https://susfood-db-era.net/drupal/content/sunniva>
- SUSDIET - Implementing sustainable diets in Europe <https://susfood-db-era.net/drupal/content/susdiet>

### ERA-IB 2

- PRODuCE - Tailor-made expression hosts depleted in protease activity for recombinant protein production <http://www.era-ib.net/produce-0>
- SCILS - Systematic consideration of inhomogeneity at the large scale: towards a stringent development of industrial bioprocesses <http://www.era-ib.net/scils>
- FiberFuel - Improved Cellulosomes to Enhance Saccharification of Industrially-Suitable Lignocellulosic Biomass Residues <http://www.era-ib.net/fiberfuel-0>

### CORE Organic II

- INTERVEG - Enhancing multifunctional benefits of cover crops – vegetables intercropping <http://coreorganic2.org/coreorganic2.asp>
- ICOPP - Developing sustainable 100% organic feed strategies for pigs and poultry <http://coreorganic2.org/coreorganic2.asp>
- TILMAN-ORG - Integrating reduced tillage and green manures in organic cropping systems <http://coreorganic2.org/coreorganic2.asp>



## Annex II: Advanced statistical analysis of the results of the pilot on-line survey

### Project experience & Success factors

	(1) Nat Co-funding	(2) EU Framework	(3) International
Admin Burden	-0.383 (0.388)	0.272 (0.389)	-1.066** (0.522)
Adequate Res	0.812** (0.352)	0.108 (0.399)	0.887* (0.470)
Cons/Part Know	-0.405 (0.509)	-0.00271 (0.561)	-0.162 (0.795)
Cons Leadership	-0.216 (0.423)	-0.382 (0.520)	0.746 (0.666)
Funding Ag Sup	0.249 (0.394)	-0.239 (0.363)	-0.846* (0.503)
QI_Partners	-0.731* (0.441)	-0.409 (0.414)	-0.234 (0.587)
QI_End Users	0.799 (0.486)	0.918* (0.478)	0.371 (0.561)
r2			
N	76	76	76

Standard errors in parentheses

\* p<.1, \*\* p<.05, \*\*\* p<.01

### Impact & Motivations (Part1)

	(1) Research Income	(2) Commercial Income	(3) Red Oper Costs
Public funding	1.442*** (0.461)	0.454 (0.424)	-0.227 (0.387)
Know Facilities	-0.398 (0.564)	-0.374 (0.663)	-1.113* (0.578)
Know Development	0.424 (0.639)	0.458 (0.806)	0.510 (1.025)
Science relations	-0.763 (0.751)	-0.215 (1.089)	-1.146 (0.810)
Commerc relations	0.886** (0.382)	1.887*** (0.382)	1.510*** (0.553)
Policy relations	0.0222 (0.366)	0.981** (0.484)	-0.812 (0.643)
Intern. Oriented	0.586 (0.555)	-1.339** (0.521)	0.279 (0.506)
Build capacity	-0.191 (0.378)	1.966*** (0.478)	1.580*** (0.465)
Learn good prac.	-0.719 (0.459)	0.250 (0.482)	0.117 (0.460)
r2			
N	73	73	73

Standard errors in parentheses

\* p<.1, \*\* p<.05, \*\*\* p<.01

### Impact & Motivations (Part2)

	(1) Incr EU/Glob share	(2) Imp Comp&Skills	(3) Imp acc to Networks
Public funding	-0.767 (0.506)	0.328 (0.372)	0.317 (0.449)
Know Facilities	-0.717 (0.577)	0.213 (0.432)	-0.0357 (0.457)
Know Development	2.128 (1.455)	1.516** (0.705)	1.051 (0.829)
Science relations	-3.941*** (1.325)	-0.415 (0.779)	1.780** (0.759)
Commerc relations	1.794*** (0.500)	1.029*** (0.390)	0.452 (0.404)
Policy relations	-0.204 (0.502)	0.207 (0.459)	-0.345 (0.500)
Intern. Oriented	-0.0439 (0.669)	0.0772 (0.452)	0.862* (0.506)
Build capacity	3.351*** (1.133)	0.214 (0.364)	0.179 (0.415)
Learn good prac.	0.105 (0.508)	0.256 (0.442)	-0.0922 (0.429)
r2			
N	73	73	73

Standard errors in parentheses

\* p<.1, \*\* p<.05, \*\*\* p<.01

### Impact & Motivations (Part3)

	(1) Higher profile	(2) Env Perform	(3) Policy making evidence	(4) Inf. 3 <sup>rd</sup> parties
Public funding	0.117 (0.365)	-0.411 (0.278)	-0.497 (0.399)	0.123 (0.478)
Know Facilities	-0.307 (0.397)	-0.0789 (0.482)	-0.301 (0.451)	-0.475 (0.416)
Know Development	1.092 (0.747)	0.559 (0.878)	0.921 (0.695)	0.365 (0.722)
Science relations	0.462 (0.817)	-0.279 (0.700)	0.0384 (0.678)	-0.570 (1.168)
Commerc relations	0.486 (0.444)	0.624 (0.444)	-0.284 (0.412)	-0.293 (0.543)
Policy relations	-0.240 (0.401)	0.357 (0.386)	0.283 (0.462)	0.559 (0.483)
Intern. Oriented	0.150 (0.417)	-0.716 (0.477)	0.00292 (0.438)	-0.312 (0.522)
Build capacity	0.662 (0.450)	1.141** (0.472)	-0.321 (0.537)	0.109 (0.696)
Learn good prac.	-0.0458 (0.369)	0.323 (0.529)	-0.107 (0.567)	0.470 (0.441)
r2				
N	73	73	73	73

Standard errors in parentheses

\* p<.1, \*\* p<.05, \*\*\* p<.01

#### Impact & Motivations (Part4)

	(1) Partners_R&D_Inno	(2) Partners_Commercial	(3) Partners_EU collaboration
Public funding	-0.790 (0.489)	0.198 (0.327)	-0.174 (0.422)
Know Facilities	0.552 (0.439)	0.0964 (0.497)	-0.0907 (0.421)
Know Development	3.377*** (0.870)	1.930** (0.802)	0.0529 (0.783)
Science relations	-0.369 (0.775)	-1.149* (0.647)	0.453 (0.776)
Commerc relations	0.623 (0.420)	1.691*** (0.496)	0.938* (0.515)
Policy relations	0.0679 (0.543)	0.832** (0.401)	0.626 (0.405)
Intern. Oriented	0.631 (0.477)	-0.280 (0.501)	0.0312 (0.565)
Build capacity	1.045 (0.665)	0.946** (0.459)	0.367 (0.563)
Learn Good prac	-0.543 (0.471)	-0.782 (0.479)	-0.304 (0.543)
r2			
N	72	73	73

Standard errors in parentheses

\* p<.1, \*\* p<.05, \*\*\* p<.01

#### Types of outputs & types of impacts

	(1) Patents
Additional research income	0.261 (0.422)
Additional commercial income	0.664 (0.577)
Access to external investment	-0.369 (0.452)
Reduced operating costs	0.434 (0.584)
Increased EU/global mrk share	0.213 (0.620)
Improved competences and skills	0.295 (0.415)
Improved access to networks	0.453 (0.675)
Higher profile in res community	0.221 (0.567)
Improved environmental perf	-0.218 (0.347)
Better evidence policy/strategic decisions	0.780** (0.380)
Higher level of influence on third parties	0.580 (0.488)
Increased interest in R&D & inn partnerships	-0.583 (0.392)
Increased interest in commercial partnerships	1.196** (0.522)
Increased interest in collaborating outside EU	-0.319 (0.316)

\* p<.1, \*\* p<.05, \*\*\* p<.01

## Annex III: Advanced statistical analysis of the ERAC survey responses (project beneficiaries)

The objective is to ascertain the experience of partners and coordinators, consistent with the extent of their involvement in P2P or H2020, in relation to management procedures for funding of transnational projects. In particular, we also look at the challenges for participants posed by different arrangements.

Software used IBM-SPSS ver 22 (setting below).

We proceed by looking at the degree of connection between the types of participation in P2P projects by beneficiaries (as project partner or coordinator)<sup>10</sup>, in relation to the extent of personal experience in transnational research projects. This first testing will uncover whether there is a connection between the experience in participating in P2P projects and Framework Programmes.

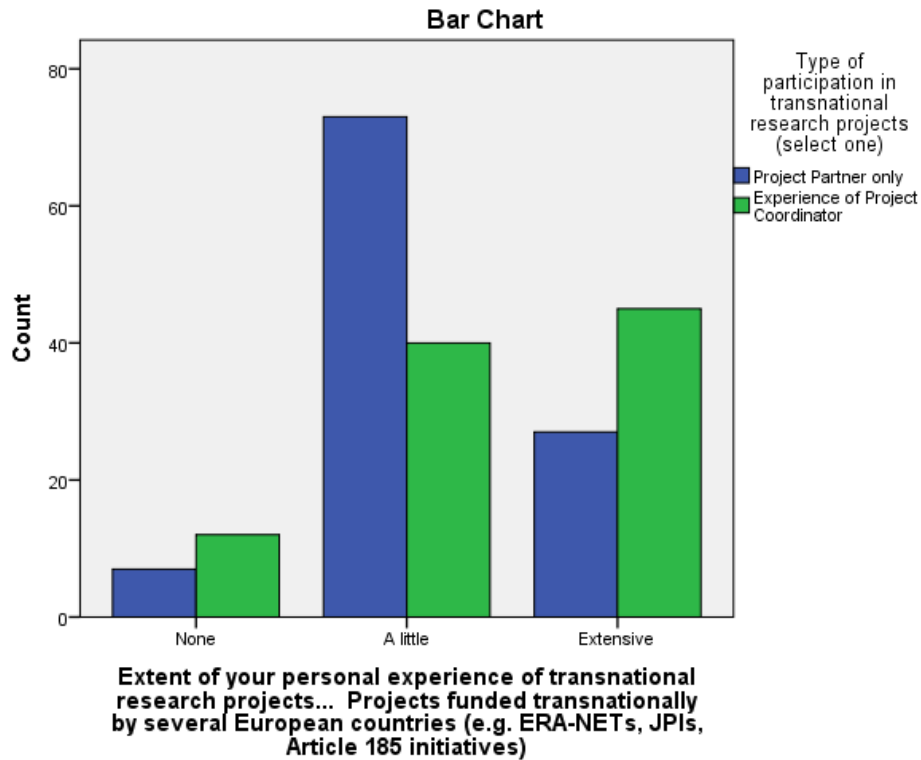
We proceed by cross-tabbing the variables and testing for their association.

### Crosstab

Count

		Type of participation in transnational research projects (select one)		Total
		Project Partner only	Experience of Project Coordinator	
Extent of your personal experience of transnational research projects... Projects funded transnationally by several European countries (e.g. ERA-NETs, JPIs, Article 185 initiatives)	None	7	12	19
	A little	73	40	113
	Extensive	27	45	72
Total		107	97	204

<sup>10</sup> We have overlooked the experience of those who were only involved in P2P as observers (only 1 respondent).



**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.999 <sup>a</sup>	2	.001
Likelihood Ratio	15.168	2	.001
Linear-by-Linear Association	3.142	1	.076
N of Valid Cases	204		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.03.

The link between type of participation in transnational projects and the extent of personal experience in project funded transnationally is substantial and significant.

**Symmetric Measures**

	Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Ordinal by Ordinal Spearman Correlation	.150	.072	2.163	.032 <sup>c</sup>
N of Valid Cases	204			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.
- c. Based on normal approximation.

We tested for the linearity of the relation between the two variables. Spearman correlation shows a tenuous, yet significant, link.

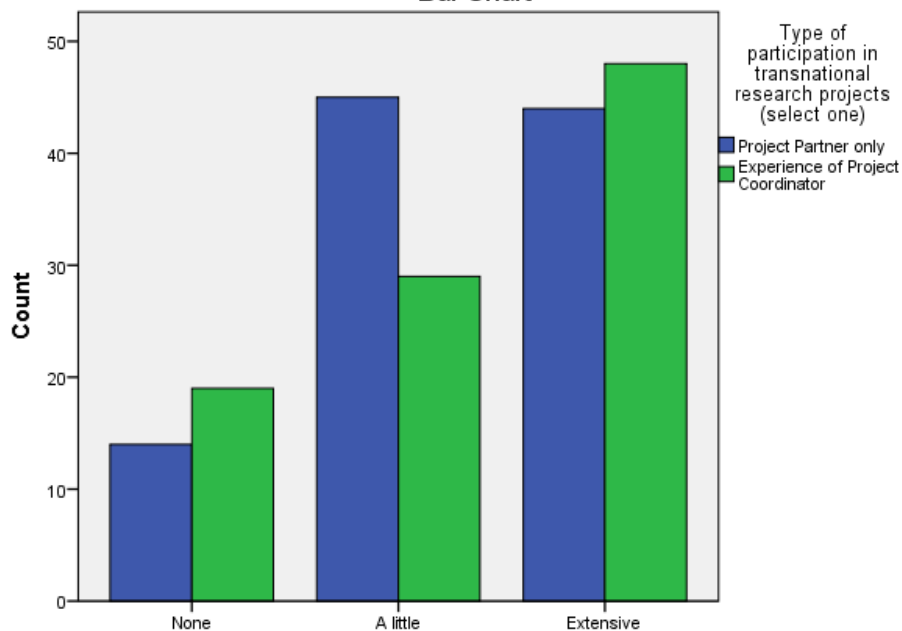
We replicated this exercise exploring the link between the respondents' type of participation in transnational projects against the extent of personal experience in project funded by the EU under the Framework Programmes schemes

**Crosstab**

Count

		Type of participation in transnational research projects (select one)		Total
		Project Partner only	Experience of Project Coordinator	
Extent of your personal experience of transnational research projects... Projects funded by the EU Framework Programmes (e.g. Horizon 2020)	None	14	19	33
	A little	45	29	74
	Extensive	44	48	92
Total		103	96	199

**Bar Chart**



**Extent of your personal experience of transnational research projects... Projects funded by the EU Framework Programmes (e.g. Horizon 2020)**

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.150 <sup>a</sup>	2	.126
Likelihood Ratio	4.175	2	.124
Linear-by-Linear Association	.011	1	.918
N of Valid Cases	199		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.92.

The test of connection between respondents' types and their personal experience of transnational research projects funded by the EU under the Framework Programmes schemes shows that the two variables are somehow independent (CHI<sup>2</sup> test non-significant).

This allows us to use the dichotomous variable 'type of participation in transnational projects' (project partners only; experience of project coordinator) focusing on P2P management issues without worrying about cross-contamination between the two types of transnational research projects.

We proceed by looking systematically at whether the involvement of the beneficiaries in P2P projects as partner only or more engaged as coordinator are related to how they experienced management procedures in relation to various critical factors in the management of P2P projects identified through the pilot.

These are:

1. Consultation on priority topics for transnational calls
2. Communication of information on the call for proposal
3. Communication of application rules and evaluation of proposals
4. Eligibility of potential partners in other countries
5. Project proposals submitted to a central platform
6. Project Proposals submitted both to a central and National platform
7. Centralised evaluation of proposals
8. Evaluation of proposals both centrally and nationally
9. Feedback on the results of proposal evaluation.

We use a small battery of nonparametric tests for independent variables (project partners only; experience of project coordinator are mutually exclusive) consisting in the Mann–Whitney–Wilcoxon, and the Z test. The tests have the null hypothesis that the two independent groups are randomly selected from the same population. Case where excluded list-wise in order to weed out missing values/non respondents.

### Test Statistics<sup>a</sup>

Experience of the management procedures for funding and management of transnational projects -> Type of participation in transnational research projects  
(Partners only; Experience as Coordinator)

	Consultations on priority topics for transnational calls	Communication of information on the call for proposals	Communication of application rules and evaluation of proposals	Eligibility of potential partners in other countries (geographic, type)	Project proposals submitted to a central platform	Project proposals submitted both to a central and national platform	Centralised evaluation of proposals	Proposals evaluated both centrally and nationally	Feedback on the results of proposal evaluation
Mann-Whitney U	3438.000	3238.000	3313.500	3582.500	3013.500	3782.000	3198.000	3482.000	3443.000
Wilcoxon W	7354.000	7154.000	7229.500	7410.500	6929.500	7698.000	7114.000	7398.000	7359.000
Z	-1.292	-2.618	-2.039	-.895	-3.456	-.148	-2.524	-1.104	-1.569
Asymp. Sig. (2-tailed)	.196	.009	.041	.371	.001	.882	.012	.270	.117

a. Grouping Variable: Type of participation in transnational research projects (select one)



Comparing the management issues we look into whether being a partner only or having being a coordinator of a transnational P2P project has any relation with how well one navigate through the processes of funding and project management in the areas we named above. In general terms, both classes of beneficiaries perceived their experience with P2P projects quite positively and, overall, the experience of those engaged in previous coordination activities is superior to those engaged as partners in P2P Projects only. In more details we can discern the areas where these differences are more relevant (and statistically significant) and draw some inference on the nature of the issues and possible remedies.

Here, we can see how there are issues such as:

- a) Communication of information on the call for proposals
- b) Communication of application rules and evaluation of proposals
- c) Project proposals submitted to a central platform
- d) Centralised evaluation of proposals

In those issues, people who were already involved in P2P project coordination have a definitely better experience in management of procedures than those who have been only engaged as partners in such projects (we call them cat.A).

On the other hand, there are issues such as:

- i. Consultations on priority topics for transnational calls
- ii. Eligibility of potential partners in other countries (geographic, type)
- iii. Project proposals submitted both to a central and national platform
- iv. Proposals evaluated both centrally and nationally
- v. Feedback on the results of proposal evaluation

Here, the two categories are statistically indistinguishable (cat. B).

Given the nature of the involvement in P2P projects of the two classes of participants/beneficiaries we may infer that issues pertaining to Category A are experiential and therefore the gap may be filled either through training or experience. On the other hand, we may think at these issues as structural whereby experience and training would not be effective. Rather, a change in how these issues are treated within networks may have an effect on how they are managed by beneficiaries either project partners only or those with experience of coordination.

To validate this observation we may look at how the typology of beneficiaries is linked to the management challenges of participants in transnational research project respect to:

1. Different rules for research funding between participating countries resulting in complex management of grants
2. Different timing in securing all national funding contributions for selected projects resulting in delays/cancellation of project start
3. Different proposal submission or evaluation procedures resulting in double submission and/or evaluation
4. Different grant management and reporting procedures resulting in double reporting

These have been identified in the pilot stage as those challenges which mainly hinder the project management process and refer mainly to differences between the transnational level and the nations specificities of P2P projects.

**Test Statistics<sup>a</sup>**

Main challenges for the participants in transnational research projects / Type of participation in transnational research projects (Project partners only; Experience of coordination)

	Different rules for research funding between participating countries resulting in complex management of grants	Different timing in securing all national funding contributions for selected projects resulting in delays/cancellation of project start	Different proposal submission or evaluation procedures resulting in double submission and/or evaluation	Different grant management and reporting procedures resulting in double reporting
Mann-Whitney U	3476.500	3800.500	3769.500	3691.000
Wilcoxon W	7304.500	8078.500	7597.500	7519.000
Z	-1.632	-.624	-.695	-.934
Asymp. Sig. (2-tailed)	.103	.533	.487	.350

a. Grouping Variable: Type of participation in transnational research projects (select one)

As we can see, both types of beneficiaries, partner only and coordinators, find these challenges very hindering, therefore confirming that structural problems in those areas are present.

The policy concern here is to address those issues of management homogenisation between the transnational level of management and the national specific procedures.

## Annex IV: Pilot survey questionnaire

### EX-POST IMPACT OF TRANSNATIONAL R&I PROJECTS

#### Survey Questions for all beneficiaries (after completion of project)

##### Introduction

Since your organisation was one of the beneficiaries of a recently completed transnational research project, which was funded by a consortium of public agencies across Europe, we would be grateful for your feedback on the exploitable outcomes. **INVITATION EMAIL WOULD IDENTIFY PROJECT NAME.**

Your project is one of many transnational R&D projects that have been funded in Europe by a partnership of R&D public funding organisations from different countries coming together (in some cases with additional EU funding) to co-fund transnational research projects through a process known as 'Joint Calls'.

It is important to the continuation of this type of R&D funding that evidence is provided by those who have received support on the absolute and relative benefits both to them and the wider economy/society.

We therefore hope that you will be willing to invest some time in providing your feedback and thus help to maintain this important source of public funding to the research & innovation community in Europe.

##### Questions

1. What is the name of your organisation and your email address (project database identification question) – *the respondent will then be asked to confirm the relevant project (if more than one) and validate/edit the database details.*
2. To what extent did the following opportunities motivate your organisation to participate in the **<name of project derived from Q1>** project? (**high, medium, low motivation**)
  - Access to public funding
  - Access to knowledge/facilities in other countries
  - Develop new knowledge in the subject area
  - Build scientific relationships with organisations in other countries
  - Build commercial relationships with organisations in other countries
  - Build policy relationships with organisations in other countries
  - Become more internationally orientated
  - Build capacity to access EU funding in the future
  - Learn about good practice from peers in other countries
  - Other (provide details)

**Please elaborate if appropriate**
3. To what extent was the transnational project opportunity superior to participating in a similar project with only national partners in your country? (**strongly agree, agree, disagree, strongly disagree**)
  - The transnational project provided access to higher-quality additional expertise and/or facilities than would have been possible with a national project (quality)

- The transnational project allowed us to participate in a type of project (e.g. TRL level) that would be very difficult, or impossible, to be funded in our country (additionality)
  - The transnational project delivered higher-quality outputs than would have been the case with a similar investment in a national project (efficiency)
  - The transnational project delivered the expected outputs in less time than would have been the case in a national project (efficiency)
  - The transnational project required less administrative effort to manage than would have been the case with a national project (efficiency)
  - The transnational project produced higher quality research results (effectiveness)
  - The transnational project pursued more ambitious objectives (effectiveness)
4. To what extent did your organisation have prior experience of international research and/or innovation funding schemes? (**no experience, some experience, significant experience**)
- Transnational research & innovation projects that were co-funded by a national or regional funding agency in your country (e.g. ERA-NET)
  - EU Framework Programmes for research and/or innovation (e.g. FP7, CIP, Horizon 2020)
  - International schemes that extend beyond Europe (e.g. Belmont Forum, Intelligent Manufacturing Systems)
  - Other
- Please elaborate if appropriate**
5. If you have some or significant experience of EU Framework Programmes (**optional question depending on answer to Q4b**), to what extent do you agree with the following? (**strongly agree, agree, disagree, strongly disagree**)
- Proposals for transnational projects (co-funded by national agencies) have a higher probability of success than EU Framework Programme projects
  - Transnational projects are more flexible (e.g. project design, number of partners, changes) than EU projects
  - Transnational projects are less bureaucratic in administration than EU Framework Programme projects
  - Transnational projects produce higher quality results (e.g. scientific excellence) than EU Framework Programme projects
  - Transnational projects produce results that are more solutions-orientated than EU Framework Programme projects
  - Transnational funding projects are limited to a more restricted choice of geographic partners than EU Framework Programme projects
6. What have been the main exploitable outcomes of the project for your organisation? (**major outcome, moderate outcome, minor outcome, not applicable**)
- Increased research capacity

- Improved scientific evidence base
- New method, data or technology
- New/improved product or service
- New technical process
- New organisational process
- Better access to international network/markets
- Better understanding of other European cultures/issues
- Enhanced research network to compete for future European project funding
- Other (provide details)

Please elaborate if appropriate

7. Have you produced any peer reviewed papers based on the knowledge you produced within the specific transnational project (None/1-3/4-10/11-20/20+)
  - If so, were these co-authored with one or more project partners (Yes/No)
  
8. Have you applied (or intend to apply) for patent protection regarding any of the intellectual assets from the project? (Yes/No/Not Applicable)
  - If yes, what will be the geographic coverage (your country, Europe, beyond Europe)
  - If you have already applied for a patent, please provide the reference number
  
9. What are the expected impacts on your organisation from participating in the specific transnational project (i.e. how will your organisation benefit from the exploitable outcomes)? (not applicable, high impact, moderate impact, minor impact)
  - Economic impacts for your organisation
    - Additional research income
    - Additional commercial income
    - Better access to external investment
    - Reduced operating costs
    - Increased European/global market share
  - Science/innovation-related impacts for your organisation
    - Improved competences and skills
    - Improved access to networks, consortia, etc.
    - Higher profile in the European/international research community
  - Environmental impacts for your organisation
    - Improved environmental performance of your organisation
  - Policy impacts for your organisation
    - Better evidence to make policy/strategy decisions
    - Higher level of influence on third parties (e.g. policy makers, industry, NGOs)
  - Behavioural impacts for your organisation
    - Increased interest in seeking research & innovation partnerships with organisations in other European countries
    - Increased interest in seeking commercial partnerships with organisations in other European countries

- Increased interest in collaborating with organisations outside Europe
- Other

Please elaborate if appropriate

10. How do you judge the level of achievement of the impacts on your organisation until now compared with your original expectations (**achieved more than expected, achieved more or less as expected, achieved less than expected**)

- The economic impacts
- The science/innovation-related impacts
- The environmental impacts
- The policy-related impacts
- The behavioural impacts

11. To what extent do you anticipate any of the following beneficial impacts beyond your organisation (i.e. for third parties, society and/or the environment) from your exploitable outcomes? (**not applicable, high impact, moderate impact, minor impact**)

Economic

- The users will be able to reduce their operating costs
- The users will be able to improve the quality of their products or service

Societal

- Research jobs will be created
- Non-research jobs will be created
- There will be benefits for public health, safety and/or quality of life

Science/innovation-related

- The outputs will make a contribution to advances in complementary scientific or technology areas
- The outputs will provide new information and/or tools for use in education

Environmental

- The users will be able to improve their environmental performance

Policy-related

- The exploitable outcomes will enable better-informed public policies
- The exploitable outcomes will support the development of new or improved regulations/standards

Please elaborate if appropriate

12. To what extent would you agree with the following statements about key factors that may have affected the course of your project? (**strongly agree, agree, disagree, strongly disagree**)?

- The administrative burden for the project reporting/management was not excessive
- The resources available (time, money) were adequate
- The consortium partners possessed the necessary knowledge/expertise
- The consortium **leadership and management was of high-quality and effective**

- The communication and support from the national funding agency was effective
- There was good quality interaction with the other project partners
- There was good quality interaction with end-users
- other

Please elaborate if appropriate

13. What do you consider to be the top three benefits from your participation in the specific transnational project

Many thanks for your feedback.

***You may be contacted again in the short term to provide additional feedback for case study purposes and/or in several years' time to assess any additional benefits that you (and/or others) have realised from the project.***

If you do not wish to be contacted again please tick this box (**TICK BOX**)

## Annex V: ERAC survey questionnaire – project beneficiaries

1. Extent of your personal experience of transnational research projects (**none, a little, extensive**)
  - Projects funded transnationally by several European countries (e.g. ERA-NETs, JPIs, Article 185 initiatives)
  - Projects funded by the EU Framework Programmes (e.g. Horizon 2020)
2. Type of participation in transnational research projects (**select one**)
  - Experience of project coordination
  - Project partner only (coordinated by others)
  - Observer only
3. Experience of the management procedures for funding and management of transnational projects (**no experience, positive experience, negative experience**)
  - Consultations on priority topics for transnational calls
  - Communication of information on the call for proposals
  - Communication of application rules and evaluation of proposals
  - Eligibility of potential partners in other countries (geographic, type)
  - Project proposals submitted to a central platform
  - Project proposals submitted both to a central and national platform
  - Centralised evaluation of proposals
  - Proposals evaluated both centrally and nationally
  - Feedback on the results of proposal evaluation

Comments?

4. Main challenges for the participants in transnational research projects (**major challenge, moderate challenge, minor challenge, not a challenge**)
  - Different rules for research funding between participating countries resulting in complex management of grants
  - Different timing in securing all national funding contributions for selected projects resulting in delays / cancellation of project start
  - Different proposal submission or evaluation procedures resulting in double submission and/or evaluation
  - Different grant management and reporting procedures resulting in double reporting

Comments?

5. Any other suggestions to improve the selection and/or management procedures for transnational research projects